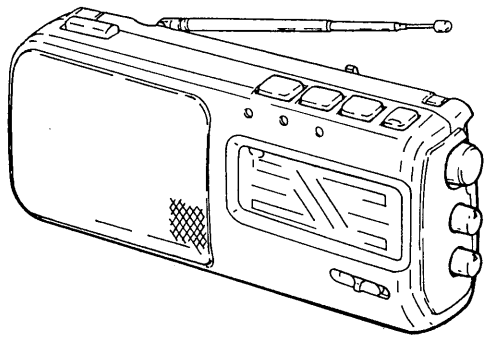
ICF-990L

SERVICE MANUAL

AEP Model
UK Model



ICF-990L is almost same as ICF-880L.
This manual contains only the points which differ from ICF-880L without exploded views.
Please refer to ICF-880L service manual (9-956-178-□□) for the information not contained in this manual.

SPECIFICATIONS

Frequency range:
FM: 87.6 – 107.5 MHz
MW: 531 – 1602 kHz
LW: 153 – 255 kHz
SW: 5.95 – 18 MHz

Speaker:
Approx. 10.2 cm (4 1/8 inches) dia. 8Ω

Power output:
430 mW(at 10% harmonic distortion)

Output:
⑫ jack (minijack)

Power requirements:
With the supplied ACpower cord:
220 - 230 V AC, 50 Hz
With four R6 (size AA)batteries: 6V DC

Dimensions :
Approx.258 x 133 x 65mm (W/h/d)
(10 1/4 x 5 1/4 x 2 5/8 inches) incl. projecting parts and control with carrying handle pushed in.

Mass:
Approx. 1080g (2 lb 6 oz) incl. batteries

Supplied accessory:
AC power cord(1)

Design and specifications are subject to change without notice.

FM/SW/MW/LW
4 BAND RADIO

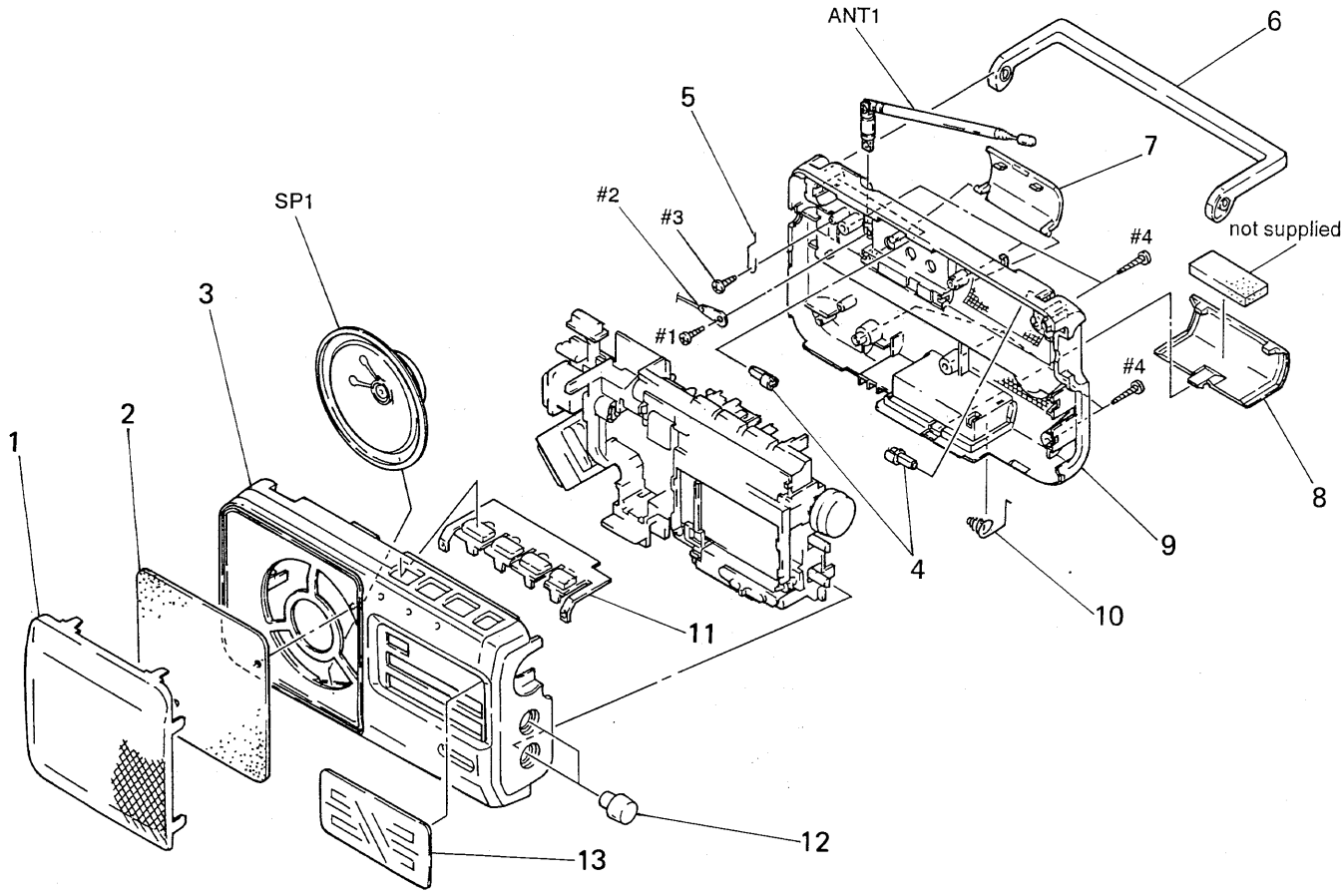
SONY®

1. EXPLODED VIEWS

NOTE:

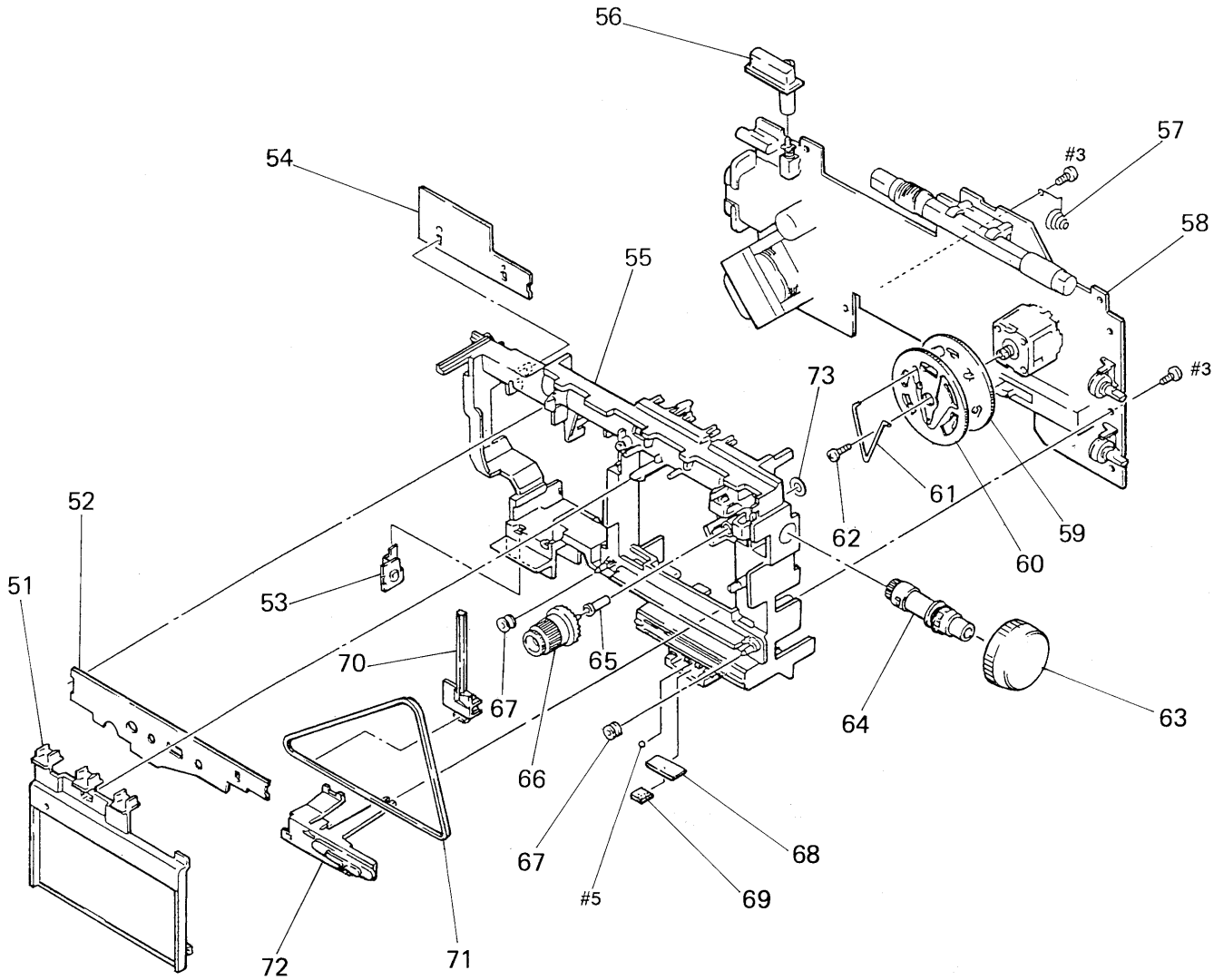
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE (WHITE) . . . (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of the electrical parts list.

(1) CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	3-925-935-01	GRILLE (SP) (BLACK) · · · (BLACK)	
1	3-925-935-11	GRILLE (SP) (WHITE) · · · (WHITE)	
2	3-925-934-01	SHEET (SP)	
3	3-925-936-01	CABINET (FRONT) (BLACK) · · · (BLACK)	
3	3-925-936-11	CABINET (FRONT) (WHITE) · · · (WHITE)	
4	3-363-372-01	SHAFT (HANDLE)	
5	3-926-910-01	SPRING, CLICK	
6	3-363-379-31	HANDLE (BLACK) · · · (BLACK)	
6	3-363-379-41	HANDLE (WHITE) · · · (WHITE)	
7	3-363-390-01	LID, PRESET (BLACK) · · · (BLACK)	
7	3-363-390-11	LID, PRESET (WHITE) · · · (WHITE)	
8	3-363-392-01	LID, BATTERY CASE (BLACK) · · · (BLACK)	
8	3-363-392-11	LID, BATTERY CASE (WHITE) · · · (WHITE)	
9	3-925-937-01	CABINET (REAR) (BLACK) · · · (BLACK) (AEP)	
9	3-925-937-11	CABINET (REAR) (WHITE) · · · (WHITE) (AEP)	
9	3-925-937-21	CABINET (REAR) (BLACK) · · · (BLACK) (UK)	
9	3-925-937-31	CABINET (REAR) (WHITE) · · · (WHITE) (UK)	
10	3-363-363-01	SPRING, PLUS. MINUS	
11	3-925-938-01	BUTTON (PRESET) (BLACK) · · · (BLACK)	
11	3-925-938-11	BUTTON (PRESET) (WHITE) · · · (WHITE)	
12	3-925-931-01	KNOB (CONTROL) (BLACK) · · · (BLACK)	
12	3-925-931-11	KNOB (CONTROL) (WHITE) · · · (WHITE)	
13	3-925-933-31	PANEL	
ANT1	1-501-362-11	ANTENNA, TELESCOPIC (FM)	
SP1	1-544-406-11	SPEAKER	

(2) CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
* 51	3-363-391-11	PLATE, BACK	
* 52	A-3662-296-A	KEY BOARD, COMPLETE (AEP)	
* 52	A-3662-302-A	KEY BOARD, COMPLETE (UK)	
53	3-363-361-01	TERMINAL BOARD, BATTERY	
* 54	1-636-867-11	VOLUME BOARD	
* 55	3-363-383-01	CHASSIS	
56	3-363-371-01	BUTTON (POWER)	
57	3-363-364-01	SPRING, MINUS	
* 58	A-3679-697-A	MAIN BOARD, COMPLETE (AEP)	
* 58	A-3679-701-A	MAIN BOARD, COMPLETE (UK)	
59	3-363-387-01	DRUM (A)	
* 60	3-363-397-01	DRUM (B)	
61	3-363-366-01	SPRING, DRUM	
62	3-364-941-11	SCREW (+B) (2.6X5), NYLOK	

Ref. No.	Part No.	Description	Remark
63	3-363-374-11	KNOB (T) (WHITE)・・・(WHITE)	
63	3-363-374-01	KNOB (T) (BLACK)・・・(BLACK)	
64	3-363-375-01	SHAFT (TUNING)	
65	3-363-367-01	BEARING	
66	3-363-373-01	GEAR, MIDWAY	
67	3-304-108-00	PULLEY	
68	3-363-362-01	SPRING, LEAF	
69	4-880-925-01	RETAINER, SPRING	
70	3-925-932-01	POINTER	
71	3-363-369-01	BELT	
72	3-925-930-01	KNOB (BAND) (BLACK)・・・(BLACK)	
72	3-925-930-11	KNOB (BAND) (WHITE)・・・(WHITE)	
73	3-364-731-01	WASHER, POLY-SLIDER	

2. DIFFERENCE ELECTRICAL PARTS LIST

NOTE:

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

Page	Ref. No.	ICF-880L	ICF-990L
		Part No. Description	Part No. Description
14		* A-3661-212-A KEY BOARD (HAND), COMPLETE	* A-3662-296-A KEY BOARD, COMPLETE (AEP) * A-3662-302-A KEY BOARD, COMPLETE (UK)
		* A-3661-215-A MAIN BOARD (HAND), COMPLETE (AEP, Germany)	* A-3679-697-A MAIN BOARD, COMPLETE (AEP)
		* A-3661-207-A MAIN BOARD (HAND), COMPLETE (UK)	* A-3679-701-A MAIN BOARD, COMPLETE (UK)
		3-363-359-01 PLATE, CONTACT, SPEAKER	
	S101	1-554-980-31 SWITCH, KEY BOARD (FM1)	1-553-856-00 SWITCH, KEY BOARD (FM1)
	S102	1-554-980-31 SWITCH, KEY BOARD (FM2)	1-553-856-00 SWITCH, KEY BOARD (FM2)
	S103	1-554-980-31 SWITCH, KEY BOARD (FM3)	1-553-856-00 SWITCH, KEY BOARD (FM3)
	S104	1-554-980-31 SWITCH, KEY BOARD (MANUAL)	1-553-856-00 SWITCH, KEY BOARD (MANUAL)
17	T4	⚠1-450-325-11 TRANSFORMER, POWER (UK)	⚠1-450-324-11 TRANSFORMER, POWER

3. ACCESSORIES & PACKING MATERIALS AND HARDWARE LIST

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-590-866-21	CORD, POWER (UK)	
⚠	1-696-562-11	CORD, POWER (AEP)	
	3-800-173-11	MANUAL, INSTRUCTION (ENGLISH, FRENCH, GERMAN, SPANISH, DUTCH, SWEDISH, PORTUGUESE)	
*	3-925-947-01	INDIVIDUAL CARTON	
		**********	
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-134-19	SCREW +P 2.6X8 TYPE2 NON-SLIT	
#2	7-623-508-01	LUG, 3	
#3	7-685-647-79	SCREW +P 3X10 TYPE2 NON-SLIT	
#4	7-685-651-79	SCREW +BTP 3X20 TYPE2 N-S	
#5	7-671-112-11	BALL, STEEL	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

English
95G0551-1
Printed in Japan
© 1995. 7

9-960-307-11

Sony Corporation
Consumer A&V Products Company
Personal A&V Products Div.

Published by Home A&V Products Div.
Quality Engineering Dept.

ICF-880L

SERVICE MANUAL

AEP Model
UK Model

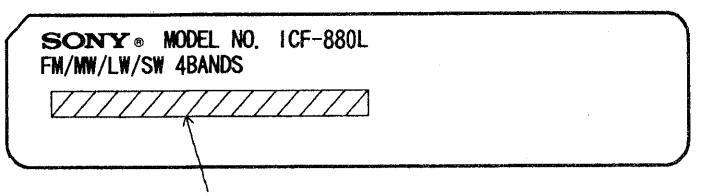
Photo : WHITE

SPECIFICATIONS

Frequency range	FM: 87.6 – 107.5 MHz (AEP/UK model) 87.6 – 108MHz (Germany model)
	MW: 531 – 1602 kHz
	LW: 153 – 255 kHz
	SW: 5.95 – 18 MHz
Intermediate frequency	FM: 10.7 MHz
	AM: 455 kHz
Antennas	FM/SW: Telescopic antenna
	AM (MW)/LW: Built-in ferrite bar antenna
Speaker	Approx. 10.2 cm ($4^1/_8$ inches) dia., 8 ohms
Power output	430 mW (at 10% harmonic distortion)
Output	Earphone jack (minijack)
Power requirements	With the supplied AC power cord: UK model: 240 V AC, 50 Hz AEP/Germany model: 220 V AC, 50 Hz
	With four R6 (size AA) batteries: 6 V DC
Battery life	Manual tuning: Approx. 35 hours using Sony batteries SUM-3 (NS) Preset tuning: Approx. 15 hours using Sony batteries SUM-3 (NS)
Dimensions	Approx. 255 × 129 × 62.6 mm (w/h/d) ($10^1/_8 \times 5^1/_8 \times 2^1/_2$ inches) incl. projecting parts and controls with carrying handle pushed in
Weight	Approx. 1025 g (2 lb $4^1/_6$ oz) incl. batteries
Supplied accessory	AC power cord (1)

Design and specifications subject to change without notice.

MODEL IDENTIFICATION
— Model Number Portion —



• Carved on rear cabinet
AEP, Germany model: AC220V ~ 50Hz 4W
• Model number label
UK model: AC240V ~ 50Hz 4W

FM/MW/LW/SW
4 BAND RECEIVER

SONY®

SECTION 1
GENERAL

This section is extracted from instraction manual.

A Location of Controls

1 **FM preset tuning controls (rear)**
2 **Carrying handle**
3 **POWER switch (ON ⏏/STANDBY ⏻)**
4 **Ⓟ (earphone) jack (left side)**
The sound through the speaker cannot be heard when an earphone is connected to the jack.
5 **AC IN (input) jack (left side)**
6 **Speaker**
7 **Battery compartment (bottom)**
8 **TUNE (tuning) indicator**
9 **Telescopic antenna**
10 **FM preset buttons (FM 1 – 3)**
11 **MANUAL (manual tuning) button**
12 **TUNE (tuning) control**
13 **VOL (volume) control**
Turn clockwise to increase the volume.
14 **TONE control**
Turn clockwise to increase the treble.
Turn counterclockwise to decrease the treble.
15 **FM preset tuning indicators**
16 **Band selector FM/MW/LW/SW**
17 **Dial scales**

Power Sources

B Batteries

Battery replacement
When the sound becomes weak or distorted, replace all the batteries with new ones. Concerning the battery life, see "Specifications".

Note
If the unit is not to be used on batteries for a long period of time, remove them to avoid battery leakage and corrosion.

C House Current

D Radio Operation

1 Depress the POWER switch (⏏) to turn on the unit.
2 Select a desired band.
3 Tune in a desired station.
4 Adjust the volume.
5 Adjust the tone to your preference.
The TUNE indicator lights up when a station is tuned in.

To turn off the radio, press the POWER switch (⏻).

Note
While the FM preset indicator is being lit, you cannot use the manual tuning. If you tune in a station manually, press the MANUAL button again.

E Preset Tuning

How to Preset
You can preset up to 3 FM stations (one station for each FM1, FM2, and FM3 buttons).
1 Preset FM1 button.
2 Turn the VOL control a little to get sound.
3 Tune in a desired FM station using the FM1 preset tuning control.
Turn the control toward MAX for higher frequencies, and toward MIN for lower frequencies.
When the station is tuned in, the TUNE indicator will light up.
The station is now preset.
Preset on the FM2 and FM3 buttons in the same way.
4 Adjust the volume.

To change the preset station
Preset a new station on a desired button.

To Tune in a Preset Station
The desired FM station will be received simply by pressing the FM1, FM2, or FM3 button after pressing.

To turn off the radio, press the POWER switch (⏻).
When you turn on the radio again, the station previously tuned in manually will be received.

For private listening, connect an earphone to the Ⓟ jack.

F To Improve Receiving Condition

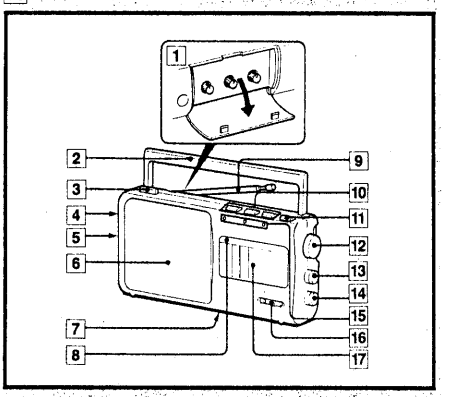
FM
Extend the telescopic antenna and adjust its length, direction and angle for the best reception.

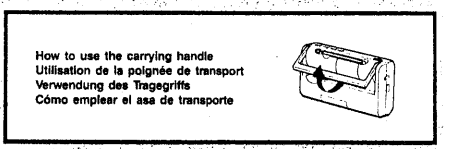
MW/LW
Since the reception is affected by the direction of the radio, rotate the unit horizontally for optimum reception.

SW
Extend the telescopic antenna vertically.

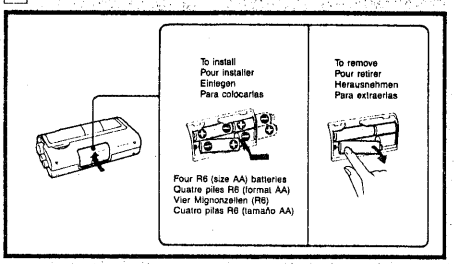
Notes
- In vehicles or in buildings, radio reception may be difficult or noisy. Try listening near a window.
- Keep the radio away from the metallic objects.

A

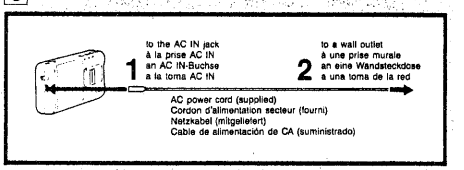



How to use the carrying handle
Utilisation de la poignée de transport
Verwendung des Tragegriffs
Cómo emplear el asa de transporte

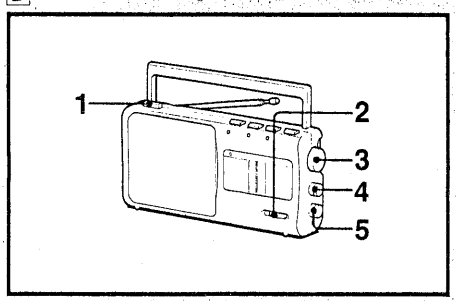
B



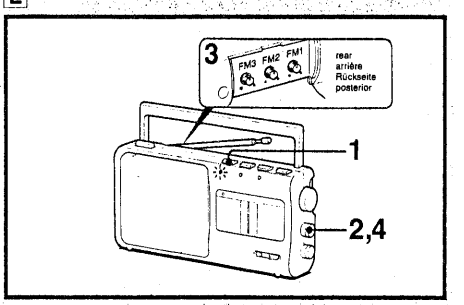
C



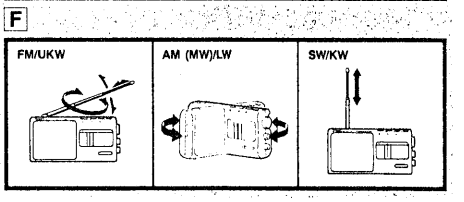
D



E



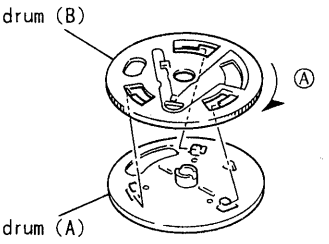
F



SECTION 2
DIAL POINTER FITTING

Note : Follow the dial pointer fitting procedure in the numerical over given.

1. INSTALL DRUM(1)



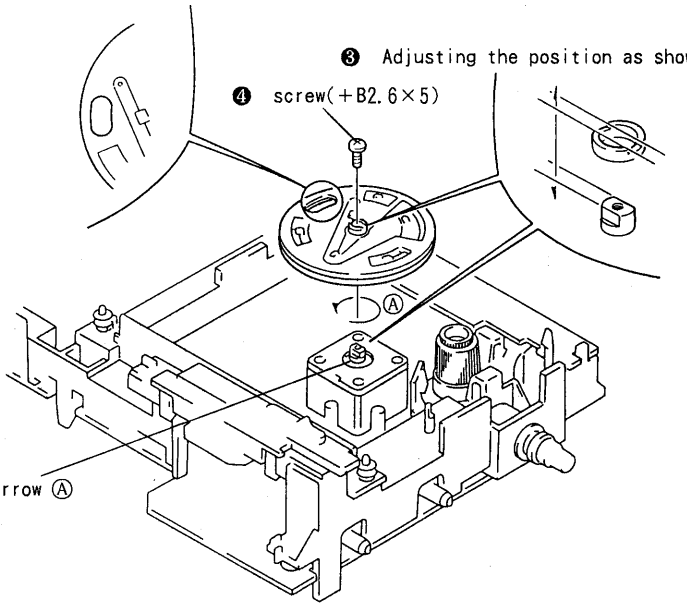
Rotate the drum (B) in arrow Ⓐ direction while inserting it into the drum (A) as shown in the figure.

2. INSTALL DRUM(2)

❷ Confirm that the drum hole is not dislocated.

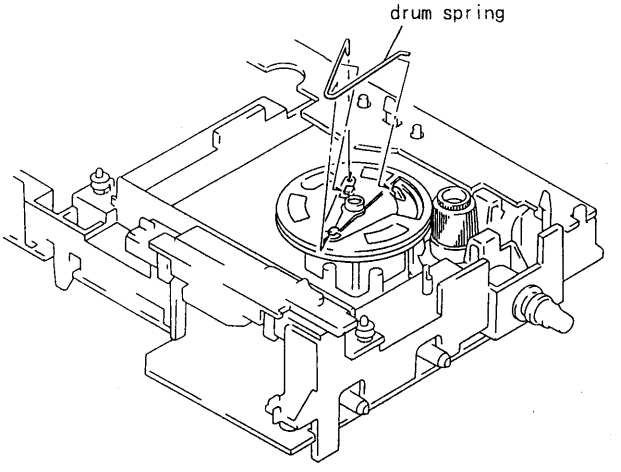
❸ Adjusting the position as shown, attach the drum to the CV1.

❹ screw(+B2.6×5)

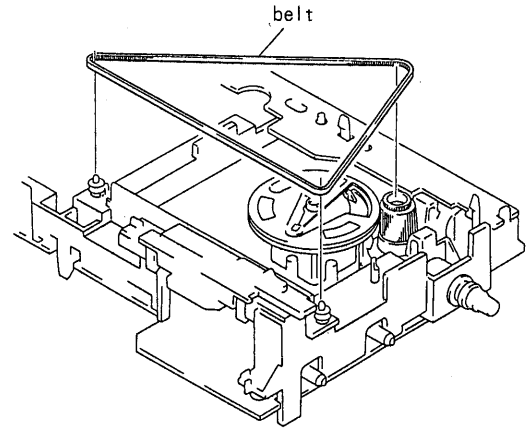


❶ Turn fully the CV1 toward arrow Ⓐ

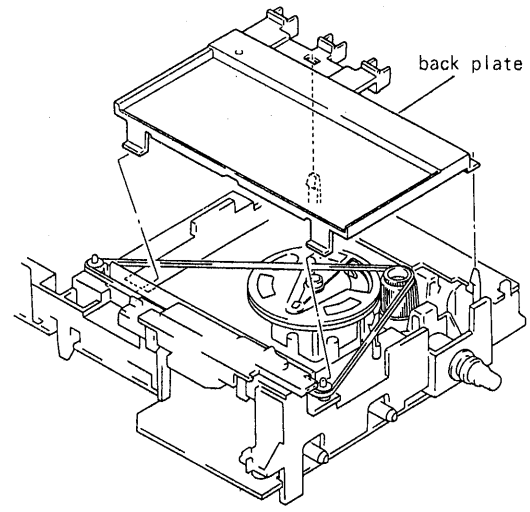
3. INSTALL DRUM SPRING



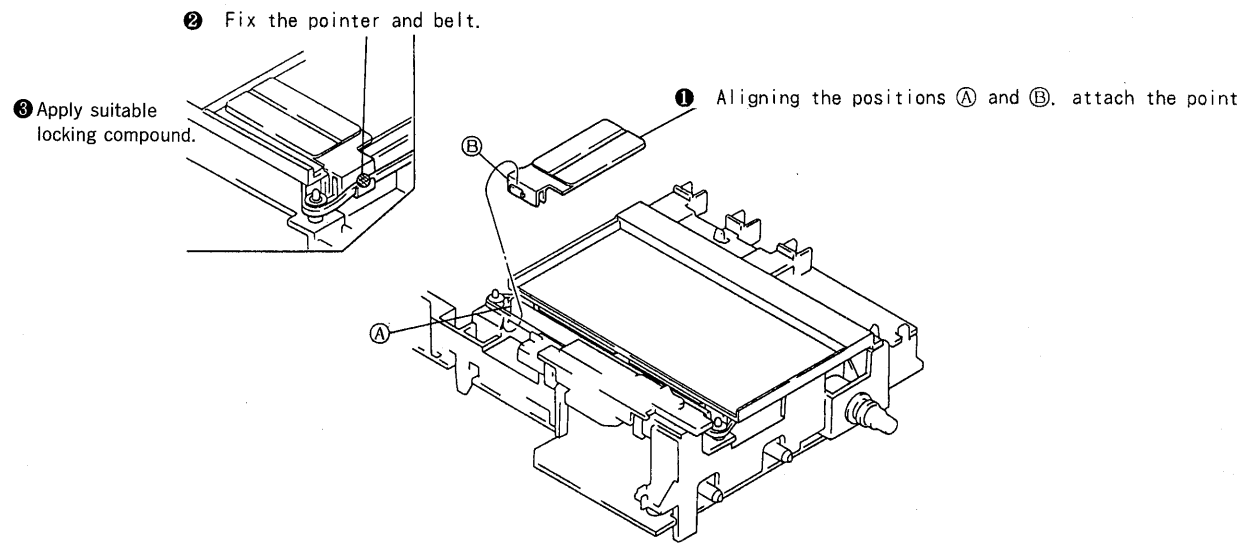
4. INSTALL BELT



5. INSTALL BACK PLATE



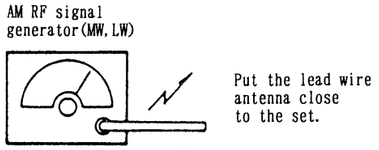
6. INSTALL DIAL POINTER

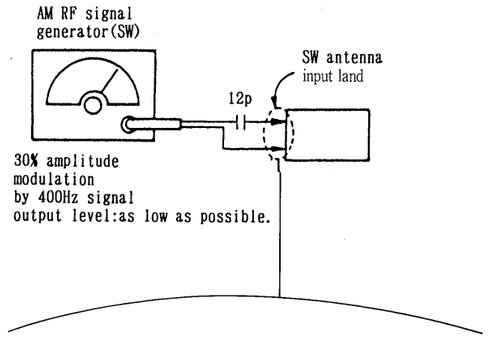


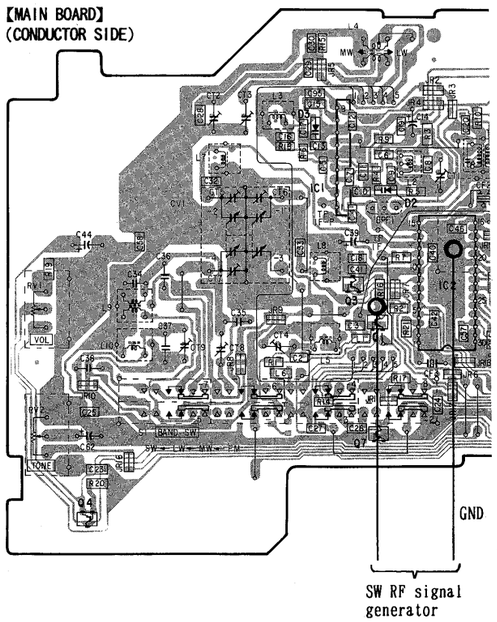
SECTION 3
ELECTRICAL ADJUSTMENT

MW/LW/SW

BAND switch : MW/LW/SW

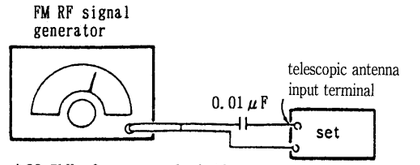


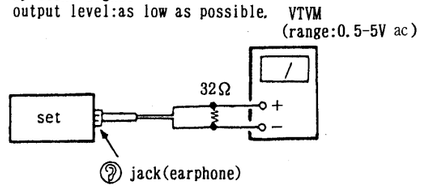




FM

BAND switch : FM





Note : LW adjustment should be made after making MW adjustments. (*1)

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T2	455kHz

MW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L9	520kHz
CT7	1,650kHz

MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4-MW	620kHz
CT2	1,400kHz

SW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L10	5.85±0.1MHz
CT9	18.2±0.1MHz

SW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L5	5.85±0.1MHz
CT4	18.2±0.1MHz

*1

LW FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
CT8	145kHz
CHECK	260kHz & MORE

*1

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L4-LW	160kHz
CT3	240kHz

FM IF ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
T1	10.7MHz

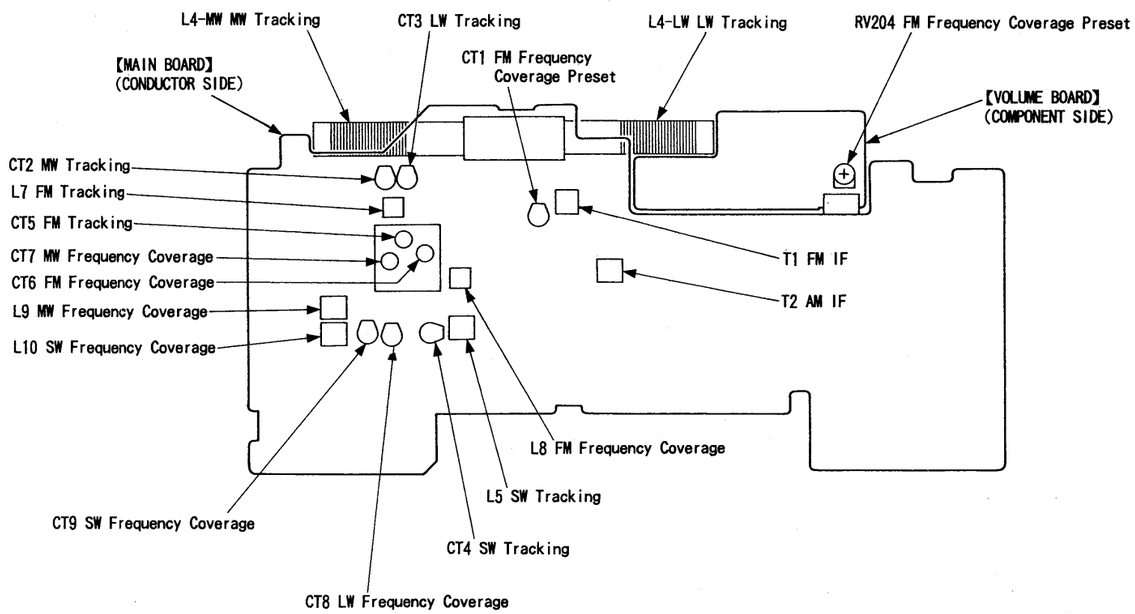
FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L8	Germany model:87.35±0.1MHz
	Others model:87.35MHz
CT6	Germany model:108.05±0.4MHz
	Others model:108.05MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
L7	87.35MHz
CT5	108.05MHz

Set PRESET Switch S101 to " FM 1ch ".

FM FREQUENCY COVERAGE PRESET ADJUSTMENT	
Adjust for a maximum reading on VTVM.	
RV204	Germany model:87.35±0.1MHz
	Others model:87.35MHz
CT1	Germany model:108.05±0.4MHz
	Others model:108.05MHz

【Adjustment Location】

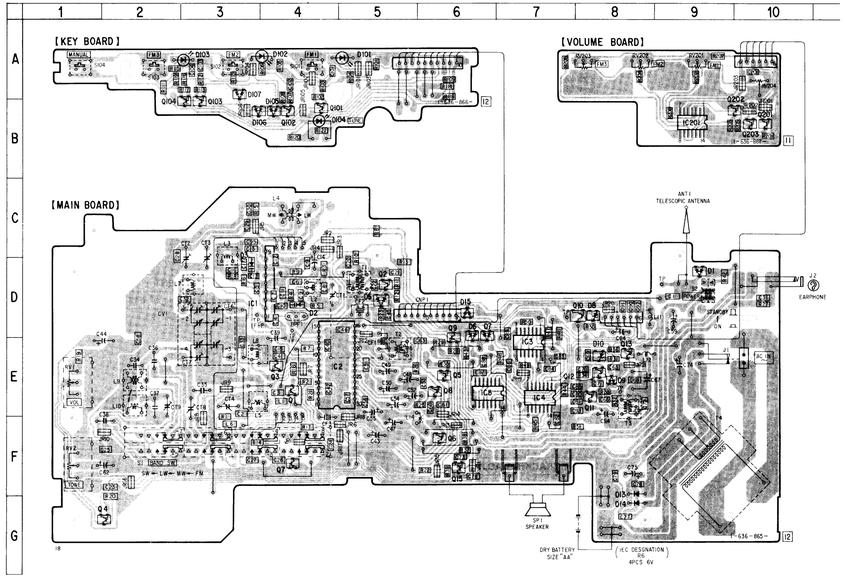


SECTION 4
DIAGRAMS

● Semiconductor Locations

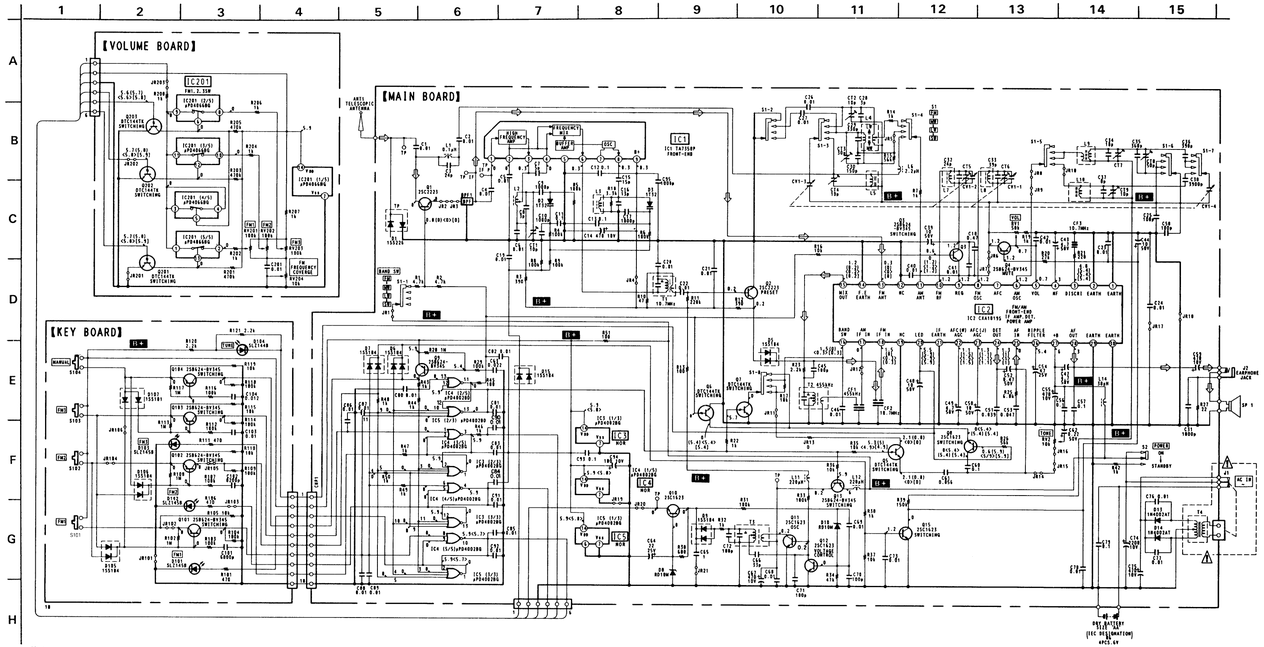
Ref. No.	Location	Ref. No.	Location
D 1	D-9	Q 1	E-4
D 2	D-4	Q 2	D-5
D 3	D-3	Q 3	E-4
D 5	D-5	Q 4	G-2
D 6	E-8	Q 5	E-6
D 7	E-6	Q 6	F-6
D 8	D-8	Q 7	F-4
D 9	E-8	Q 8	E-6
D 1 0	E-8	Q 9	E-6
D 1 3	G-8	Q 1 0	D-8
D 1 4	G-8	Q 1 1	E-8
D 1 5	D-6	Q 1 2	E-8
D 1 0 1	A-5	Q 1 3	E-8
D 1 0 2	A-4	Q 1 5	F-6
D 1 0 3	A-3	Q 1 0 1	B-4
D 1 0 4	B-4	Q 1 0 2	B-4
D 1 0 5	B-4	Q 1 0 3	B-3
D 1 0 6	B-3	Q 1 0 4	B-3
D 1 0 7	A-3	Q 2 0 1	B-1 0
		Q 2 0 2	B-1 0
IC 1	D-4	Q 2 0 3	B-1 0
IC 2	E-4		
IC 3	E-7		
IC 4	E-7		
IC 5	E-6		
IC 2 0 1	B-9		

4-1. Printed Wiring Boards



Note:
- ○—— :parts extracted from the component side.

4-2. Schematic Diagram



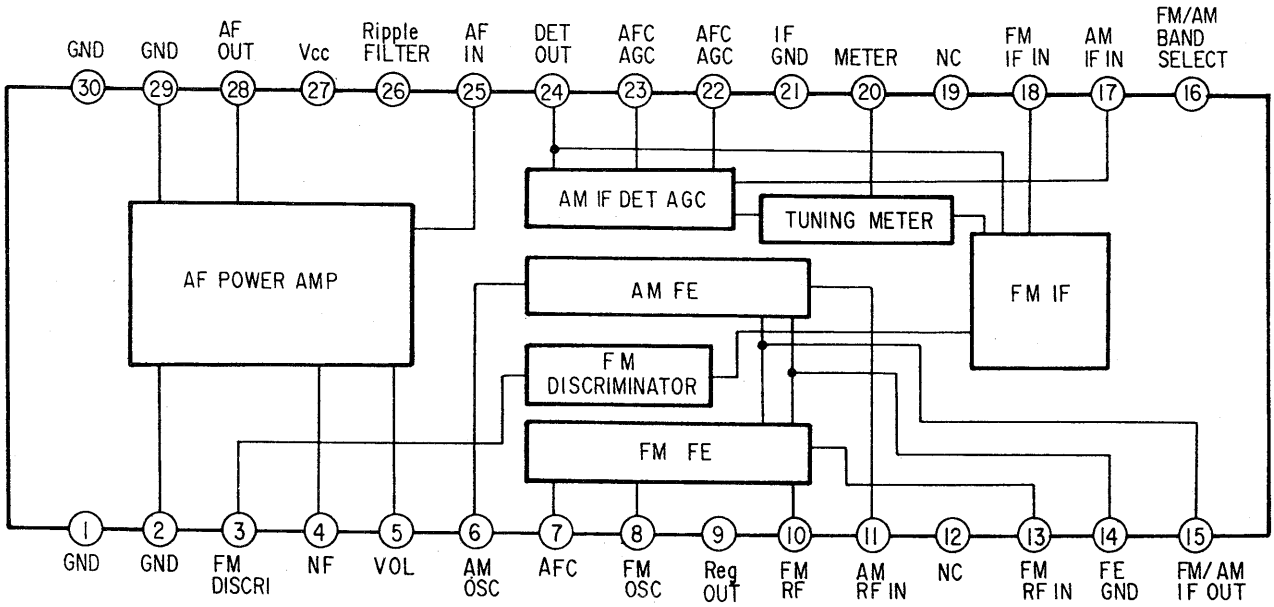
Note:
- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and ¼ W or less unless otherwise specified.
- △ :internal component.

Note: The components identified by mark △ or dotted line with mark △ are cirtical for safety. Replace only with part number specified.

- Voltage is dc with respect to ground under no-signal(detuned) conditions.
  no mark:FM
  ( ) :MW
  < > :LW
  [ ] :SW
- Voltages are taken with a VOM(input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ :FM

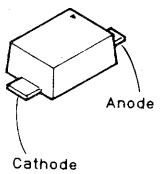
● IC Block Diagram

IC 2
CXA1019S

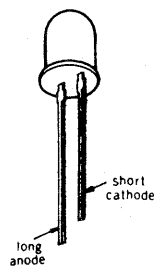


● Semiconductor Lead Layouts

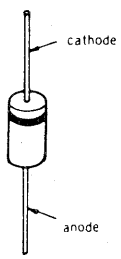
IT32



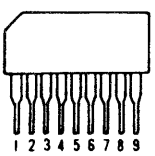
SLZ145B



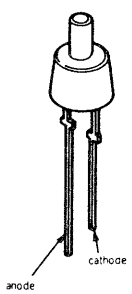
10E2



TA7358P



SLZ144B

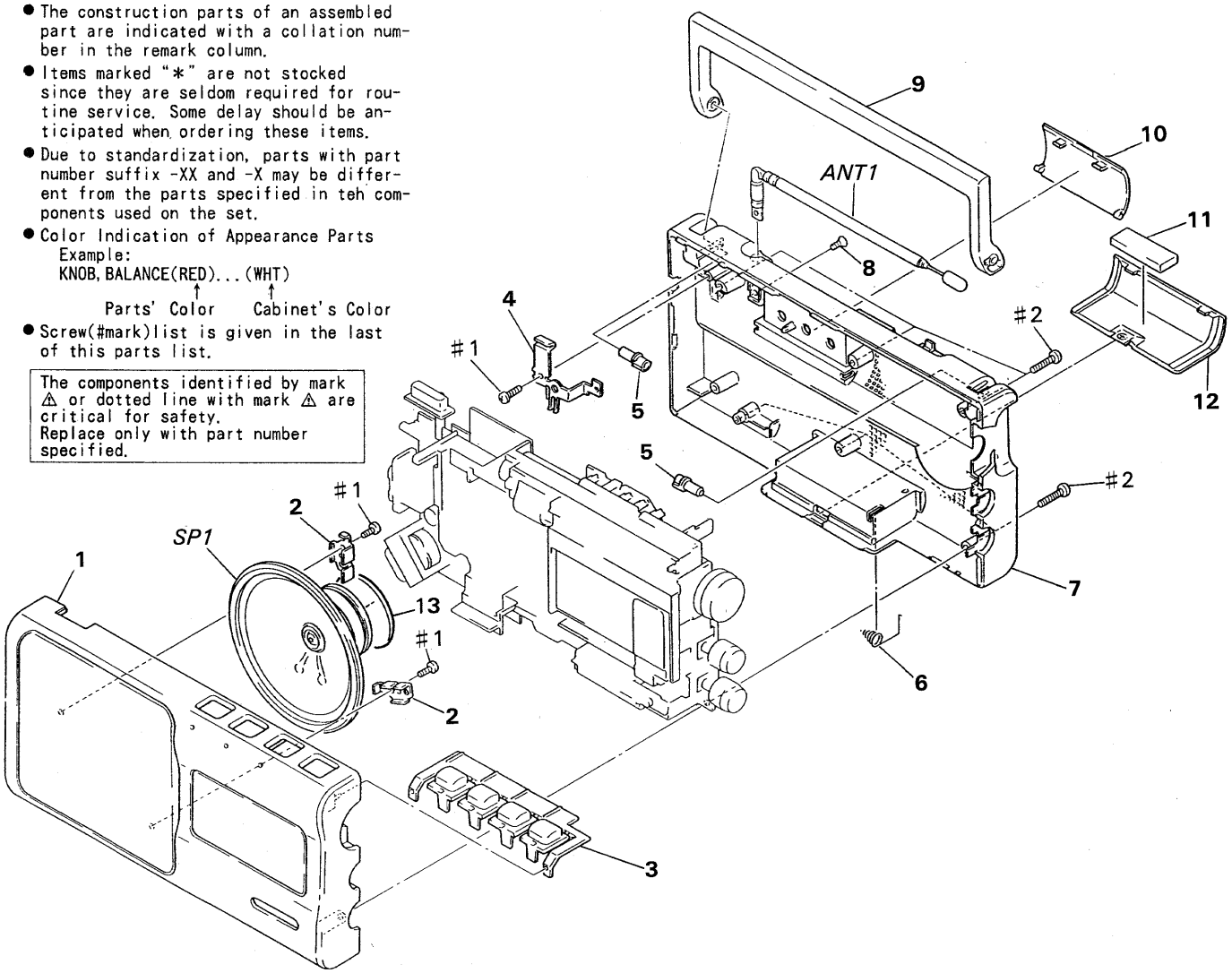


SECTION 5
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Due to standardization, parts with part number suffix -XX and -X may be different from the parts specified in teh components used on the set.
- Color Indication of Appearance Parts
  Example:
  KNOB, BALANCE(RED)...(WHT)
  ↑ Parts' Color ↑ Cabinet's Color
- Screw(#mark)list is given in the last of this parts list.

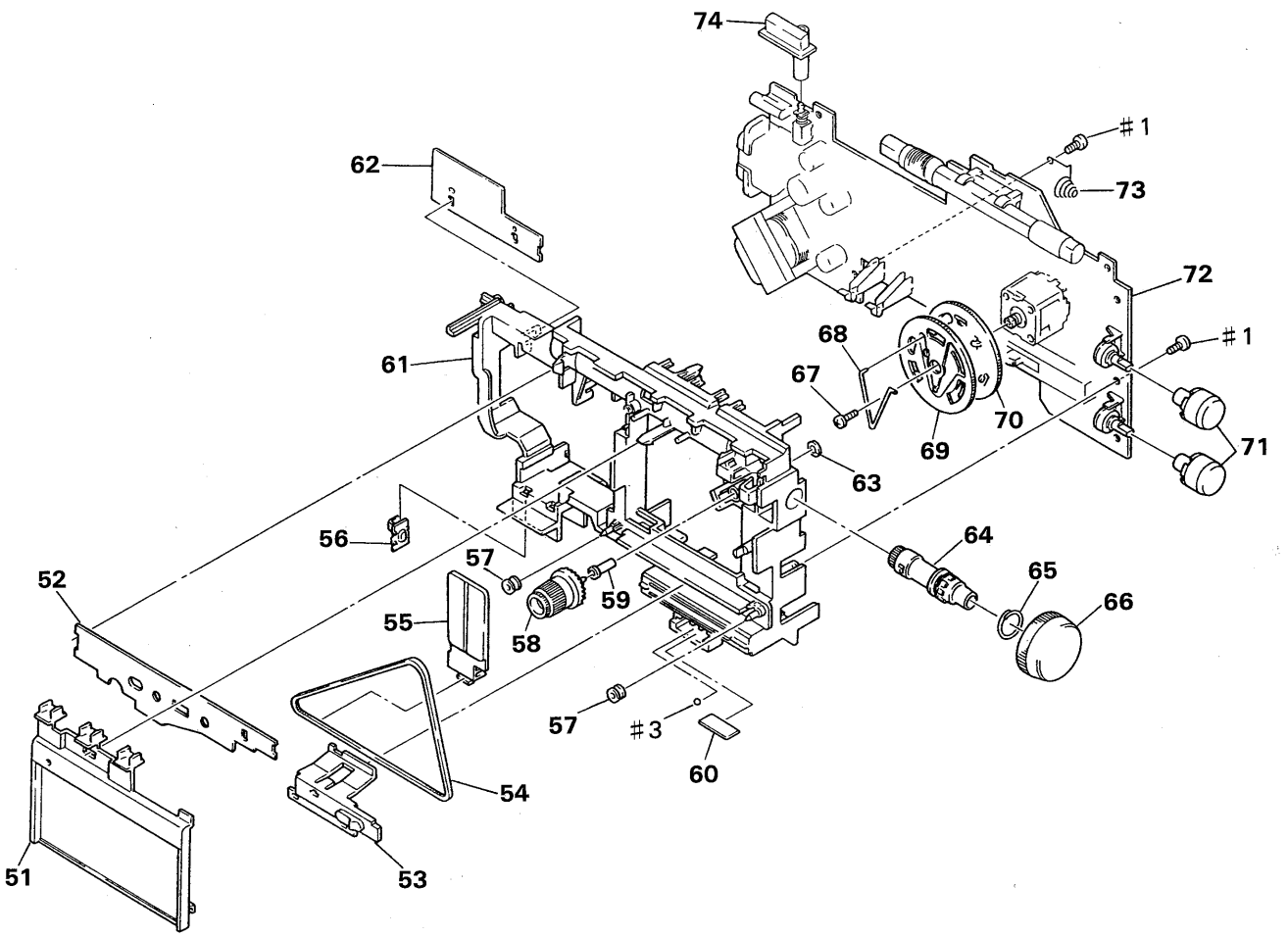
The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

1. CABINET SECTION



Ref. No.	Part No.	Description	Remark
1	X-3362-617-1	CABINET (FRONT) ASSY (BLACK) ···(BLACK:AEP, Germany)	
1	X-3362-618-1	CABINET (FRONT) ASSY (WHITE)···(WHITE)	
2	3-364-730-01	CLAW, SPEAKER	
3	3-363-388-01	BUTTON.GANG (BLACK) ···(BLACK : AEP,Germany)	
3	3-363-388-11	BUTTON, GANG (WHITE)···(WHITE)	
4	3-363-360-01	SPRING, HANDLE	
5	3-363-372-01	SHAFT (HANDLE)	
6	3-363-363-01	SPRING, PLUS.MINUS	
7	3-363-382-11	CABINET (REAR) (NO. 1) (WHITE)··(WHITE:UK)	
7	3-363-382-21	CABINET (REAR) (NO. 1) (BLACK) ···(BLACK:AEP, Germany)	
7	3-363-382-31	CABINET (REAR) (NO. 1) (WHITE) ···(WHITE:AEP, Germany)	
8	3-364-994-11	SCREW (+K) (3X6), NYLOK	
9	3-363-379-01	HANDLE (BLACK)···(BLACK:AEP, Germany)	
9	3-363-379-11	HANDLE (WHITE)···(WHITE)	
10	3-363-390-01	LID, PRESET (BLACK) ···(BLACK:AEP, Germany)	
10	3-363-390-11	LID, PRESET (WHITE)···(WHITE)	
11	9-911-815-02	CUSHION	
12	3-363-392-01	LID, BATTERY CASE (BLACK) ···(BLACK:AEP, Germany)	
12	3-363-392-11	LID, BATTERY CASE (WHITE)···(WHITE)	
13	3-365-352-01	SHEET,PROTECTION	
ANT1	1-501-362-11	ANTENNA, TELESCOPIC	
SP1	1-544-406-11	SPEAKER	

2. CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
51	* 3-363-391-01	PLATE, BACK	
52	* A-3661-212-A	MOUNTED PCB (HAND), KEY	
53	3-363-389-01	KNOB (B) (BLACK) ··· (BLACK:AEP, Germany)	
53	3-363-389-11	KNOB (B) (WHITE) ··· (WHITE)	
54	3-363-369-01	BELT	
55	3-363-377-01	POINTER	
56	3-363-361-01	TERMINAL BOARD, BATTERY	
57	3-304-108-00	PULLEY	
58	3-363-373-01	GEAR, MIDWAY	
59	3-363-367-01	BEARING	
60	3-363-362-01	SPRING, LEAF	
61	* 3-363-383-01	CHASSIS	
62	1-636-867-11	PC BOARD, VOLUME	
63	3-364-731-01	WASHER, POLY-SLIDER	
64	3-363-375-01	SHAFT (TUNING)	
65	3-363-365-01	RING	

Ref. No.	Part No.	Description	Remark
66	3-363-374-01	KNOB (T) (BLACK) ··· (BLACK:AEP, Germany)	
66	3-363-374-11	KNOB (T) (WHITE) ··· (WHITE)	
67	3-364-941-11	SCREW (+B) (2.6X5), NYLOK	
68	3-363-366-01	SPRING, DRUM	
69	* 3-363-397-01	DRUM (B)	
70	3-363-387-01	DRUM (A)	
71	3-363-393-01	KNOB (CONTROL) (BLACK) ··· (BLACK:AEP, Germany)	
71	3-363-393-11	KNOB (CONTROL) (WHITE) ··· (WHITE)	
72	* A-3661-207-A	MOUNTED PCB (HAND), MAIN ··· (UK)	
72	* A-3661-215-A	MOUNTED PCB (HAND), MAIN ··· (AEP, Germany)	
73	3-363-364-01	SPRING, MINUS	
74	3-363-371-01	BUTTON (POWER)	

KEY MAIN

SECTION 6
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- If there are two or more same circuits in a set such as a stereophonic machine, only typical circuit parts may be indicated and capacitors and resistors in other same circuits may be omitted.

CAPACITORS :
uF : μF
RESISTORS
• All resistors are in ohms.
• F:nonflammable
INDUCTOR :
uH : μH
SEMICONDUCTORS
In each case, u: μ, for example:
uA··· : μA···, uPA··· : μPA···,
uPC··· : μPC···, uPD···, μPD···
- Screw(#mark)list is given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
	* A-3661-212-A	KEY BOARD (HAND),COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-019-00	CERAMIC CHIP	0.0068uF	10% 50V	
C102	1-163-020-00	CERAMIC CHIP	0.0082uF	10% 50V	
C103	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C104	1-163-022-00	CERAMIC CHIP	0.012uF	10% 50V	
		< DIODE >			
D101	8-719-988-87	LED SLZ-145B			
D102	8-719-988-87	LED SLZ-145B			
D103	8-719-988-87	LED SLZ-145B			
D104	8-719-988-88	LED SLZ-144B			
D105	8-719-801-78	DIODE 1SS184			
D106	8-719-801-78	DIODE 1SS184			
D107	8-719-820-05	DIODE 1SS181			
		< JUMPER >			
JR101	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR102	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR103	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR104	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR105	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR106	1-216-295-00	METAL CHIP	0	5% 1/10W	
		< TRANSISTOR >			
Q101	8-729-141-48	TRANSISTOR 2SB624-BV345			
Q102	8-729-141-48	TRANSISTOR 2SB624-BV345			
Q103	8-729-141-48	TRANSISTOR 2SB624-BV345			
Q104	8-729-141-48	TRANSISTOR 2SB624-BV345			
		< RESISTOR >			
R101	1-216-041-00	METAL CHIP	470	5% 1/10W	
R102	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R103	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R104	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R105	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R106	1-216-041-00	METAL CHIP	470	5% 1/10W	
R107	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R108	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R109	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R110	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R111	1-216-190-00	METAL GLAZE	470	5% 1/8W	
R112	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R113	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R114	1-216-246-00	METAL GLAZE	100K	5% 1/8W	
R115	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R116	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R117	1-216-121-00	METAL CHIP	1M	5% 1/10W	
R118	1-216-097-00	METAL CHIP	100K	5% 1/10W	
R119	1-216-073-00	METAL CHIP	10K	5% 1/10W	
R120	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
R121	1-216-057-00	METAL CHIP	2.2K	5% 1/10W	
		< SWITCH >			
S101	1-554-980-31	SWITCH, KEY BOARD (FM1)			
S102	1-554-980-31	SWITCH, KEY BOARD (FM2)			
S103	1-554-980-31	SWITCH, KEY BOARD (FM3)			
S104	1-554-980-31	SWITCH, KEY BOARD (MANUAL)			
		**********			
	* A-3661-215-A	MAIN BOARD (HAND),COMPLETE...(AEP,Germany)			
	* A-3661-207-A	MAIN BOARD (HAND),COMPLETE...(UK)			
		**********			
	3-363-359-01	PLATE, CONTACT, SPEAKER			
	* 3-364-732-01	PLATE (A), SHIELD			
BPF1	1-236-022-11	FILTER, BAND PASS			
		< CAPACITOR >			
C1	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C2	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C3	1-163-102-91	CERAMIC CHIP	24PF	5% 50V	
C4	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C5	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C6	1-164-232-11	CERAMIC CHIP	0.01uF	50V	

Ref. No.	Part No.	Description			Remark
C7	1-163-088-00	CERAMIC CHIP	5PF	50V	
C8	1-163-086-00	CERAMIC CHIP	3PF	50V	
C9	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C10	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C11	1-163-077-00	CERAMIC CHIP	0.1uF	10% 25V	
C12	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C13	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C14	1-126-925-11	ELECT	470uF	20% 10V	
C15	1-163-097-00	CERAMIC CHIP	15PF	5% 50V	
C16	1-163-096-00	CERAMIC CHIP	13PF	5% 50V	
C17	1-163-141-00	CERAMIC CHIP	0.001uF	5% 50V	
C18	1-164-005-11	CERAMIC CHIP	0.47uF	25V	
C19	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C20	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C21	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C22	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C23	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C24	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C25	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C26	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C27	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C28	1-163-086-00	CERAMIC CHIP	3PF	50V	
C29	1-163-129-00	CERAMIC CHIP	330PF	5% 50V	
C30	1-163-121-00	CERAMIC CHIP	150PF	5% 50V	
C31	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
C32	1-163-102-00	CERAMIC CHIP	24PF	5% 50V	
C33	1-164-241-91	CERAMIC CHIP	39PF	5% 50V	
C34	1-102-953-00	CERAMIC	18PF	5% 50V	
C35	1-104-066-11	POLYSTYRENE	360PF	5% 50V	
C36	1-104-067-00	POLYSTYRENE	390PF	5% 50V	
C37	1-102-945-00	CERAMIC	8.0PF	+-0.5PF 50V	
C38	1-104-091-00	POLYSTYRENE	0.0039uF	5% 50V	
C39	1-123-875-11	ELECT	10uF	20% 50V	
C40	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C41	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C42	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C43	1-124-927-11	ELECT	4.7uF	20% 100V	
C44	1-123-875-11	ELECT	10uF	20% 50V	
C45	1-163-123-00	CERAMIC CHIP	180PF	5% 50V	
C46	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C47	1-124-927-11	ELECT	4.7uF	20% 100V	
C48	1-123-875-11	ELECT	10uF	20% 50V	
C49	1-124-927-11	ELECT	4.7uF	20% 100V	
C50	1-123-875-11	ELECT	10uF	20% 50V	
C51	1-163-079-00	CERAMIC CHIP	0.039uF	10% 25V	
C52	1-124-902-00	ELECT	0.47uF	20% 50V	
C53	1-163-809-11	CERAMIC CHIP	0.047uF	10% 25V	
C54	1-124-477-11	ELECT	47uF	20% 25V	
C55	1-126-925-11	ELECT	470uF	20% 10V	
C56	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C57	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C58	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C59	1-126-925-11	ELECT	470uF	20% 10V	
C60	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C61	1-164-347-11	CERAMIC CHIP	0.056uF	10% 25V	
C62	1-124-464-11	ELECT	0.22uF	20% 50V	
C63	1-163-063-00	CERAMIC CHIP	0.022uF	10% 50V	
C64	1-126-233-11	ELECT	22uF	20% 50V	
C65	1-162-638-11	CERAMIC CHIP	1uF	16V	
C66	1-163-105-00	CERAMIC CHIP	33PF	5% 50V	
C67	1-126-925-11	ELECT	470uF	20% 10V	
C68	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C69	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C70	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C71	1-163-117-00	CERAMIC CHIP	100PF	5% 50V	
C72	1-163-123-00	CERAMIC CHIP	180PF	5% 50V	
C73	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C74	1-126-927-11	ELECT	2200uF	20% 10V	
C75	1-126-925-11	ELECT	470uF	20% 10V	
C76	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C77	1-163-059-00	CERAMIC CHIP	0.01uF	10% 50V	
C78	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C79	1-163-038-00	CERAMIC CHIP	0.1uF	25V	
C80	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C81	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C82	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C83	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C84	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C85	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C86	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C87	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C88	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C89	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C90	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C91	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C92	1-164-232-11	CERAMIC CHIP	0.01uF	50V	
C93	1-164-004-11	CERAMIC CHIP	0.1uF	10% 25V	
C94	1-124-443-00	ELECT	100uF	20% 10V	
C95	1-163-009-11	CERAMIC CHIP	0.001uF	10% 50V	
		< FILTER >			
CF1	1-567-177-00	FILTER, CERAMIC 455KHz			
CF2	1-567-097-61	FILTER, CERAMIC 10.7MHz			
CF3	1-567-097-61	FILTER, CERAMIC 10.7MHz			
		< CONNECTOR >			
CNP1	1-568-285-11	SOCKET, CONNECTOR 10P			
		< TRIMMER >			
CT1	1-141-354-21	CAP, VAR, TRIMMER 10P			
CT2	1-141-354-21	CAP, VAR, TRIMMER 10P			
CT3	1-141-254-11	CAP, TRIMMER 30PF			
CT4	1-141-354-21	CAP, VAR, TRIMMER 10P			
CT8	1-141-267-21	CAP, CERAMIC TRIMMER 50PF			
CT9	1-141-354-21	CAP, VAR, TRIMMER 10P			
CT5-7, CV1	1-151-679-11	CAP, VAR			
		< DIODE >			
D1	8-719-800-76	DIODE 1SS226			
D2	8-719-949-46	DIODE 1T32			
D3	8-719-949-46	DIODE 1T32			
D5	8-719-801-78	DIODE 1SS184			

MAIN

Ref. No.	Part No.	Description	Remark
D6	8-719-801-78	DIODE 1SS184	
D7	8-719-801-78	DIODE 1SS184	
D8	8-719-106-53	DIODE RD10M-B2	
D9	8-719-801-78	DIODE 1SS184	
D10	8-719-106-53	DIODE RD10M-B2	
D13	8-719-200-02	DIODE 10E2	
D14	8-719-200-02	DIODE 10E2	
D15	8-719-801-78	DIODE 1SS184	
		< IC >	
IC1	8-759-204-01	IC TA7358P	
IC2	8-752-055-05	IC CXA1019S	
IC3	8-759-109-08	IC uPD4002BG	
IC4	8-759-106-05	IC uPD4001BG	
IC5	8-759-109-08	IC uPD4002BG	
		< JACK >	
J1	1-526-838-11	INLET, AC 2P (AC IN)	
J2	1-563-836-21	JACK (EARPHONE)	
		< JUMPER >	
JR1	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR2	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR3	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR4	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR5	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR6	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR7	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR8	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR9	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR10	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR11	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR12	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR13	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR14	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR15	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR16	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR17	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR18	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR19	1-216-296-00	METAL CHIP 0 5% 1/8W	
JR20	1-216-295-00	METAL CHIP 0 5% 1/10W	
JR21	1-216-295-00	METAL CHIP 0 5% 1/10W	
		< COIL >	
L1	1-410-981-11	INDUCTOR CHIP 0.1uH	
L2	1-460-133-11	COIL (WITH CORE) (RF)	
L3	1-460-140-11	COIL (WITH CORE)	
L4	1-402-535-11	ANTENNA, FERRITE-ROD (LW/MW)	
L5	1-402-538-11	SW COEL (ANT)	
L6	1-410-196-11	INDUCTOR CHIP 2.2uH	
L7	1-460-134-11	COIL (WITH CORE) (RF)	
L8	1-460-135-11	COIL (WITH CORE) (RF)	
L9	1-406-092-11	COIL, OSC (MW)	
L10	1-406-413-11	COIL, SW (OSC)	
L11	1-410-336-11	INDUCTOR 220uH	
L12	1-410-336-11	INDUCTOR 220uH	
L14	1-410-294-11	INDUCTOR, MICRO 38uH	

Ref. No.	Part No.	Description	Remark
		< TRANSISTOR >	
Q1	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q2	8-729-102-07	TRANSISTOR 2SC2223-F13	
Q3	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q4	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q5	8-729-903-30	TRANSISTOR DTC144TK	
Q6	8-729-903-30	TRANSISTOR DTC144TK	
Q7	8-729-903-30	TRANSISTOR DTC144TK	
Q8	8-729-100-66	TRANSISTOR 2SC1623	
Q9	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q10	8-729-100-66	TRANSISTOR 2SC1623	
Q11	8-729-100-66	TRANSISTOR 2SC1623	
Q12	8-729-100-66	TRANSISTOR 2SC1623	
Q13	8-729-141-48	TRANSISTOR 2SB624-BV345	
Q15	8-729-100-66	TRANSISTOR 2SC1623	
		< RESISTOR >	
R1	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R2	1-216-065-00	METAL CHIP 4.7K 5% 1/10W	
R3	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R4	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R5	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R6	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R7	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R8	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R9	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R10	1-216-017-00	METAL CHIP 47 5% 1/10W	
R11	1-216-105-00	METAL CHIP 220K 5% 1/10W	
R12	1-216-039-00	METAL CHIP 390 5% 1/10W	
R13	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R14	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R15	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R16	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R17	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R18	1-216-061-00	METAL CHIP 3.3K 5% 1/10W	
R19	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R20	1-216-232-00	METAL GLAZE 27K 5% 1/8W	
R21	1-216-033-00	METAL CHIP 220 5% 1/10W	
R22	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R23	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R25	1-216-069-00	METAL CHIP 6.8K 5% 1/10W	
R26	1-216-091-00	METAL CHIP 56K 5% 1/10W	
R27	1-216-009-00	METAL CHIP 22 5% 1/10W	
R28	1-216-121-00	METAL CHIP 1M 5% 1/10W	
R29	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R30	1-216-045-00	METAL CHIP 680 5% 1/10W	
R31	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R32	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R33	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R34	1-216-089-00	METAL CHIP 47K 5% 1/10W	
R35	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R36	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R37	1-216-073-00	METAL CHIP 10K 5% 1/10W	
R38	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R39	1-216-101-00	METAL CHIP 150K 5% 1/10W	

MAIN VOLUME

Ref. No.	Part No.	Description			Remark
R42	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R43	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R44	1-216-198-00	METAL CHIP	1K	5% 1/8W	
R45	1-216-174-00	METAL GLAZE	100	5% 1/8W	
R46	1-216-198-00	METAL CHIP	1K	5% 1/8W	
R47	1-216-198-00	METAL CHIP	1K	5% 1/8W	
R48	1-216-198-00	METAL CHIP	1K	5% 1/8W	
R49	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R50	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R51	1-216-025-00	METAL CHIP	100	5% 1/10W	
		< VARIABLE RESISTOR >			
RV1	1-241-362-11	RES, VAR, CARBON 50K			
RV2	1-241-361-11	RES, VAR, CARBON 10K			
		< SWITCH >			
S1	1-571-172-11	SWITCH, SLIDE (BAND SW)			
S2	1-571-042-11	SWITCH, PUSH (1 KEY) (POWER)			
		< TRANSFORMER >			
T1	1-403-872-00	I.F.T CONVERTER FM (SMALL TYPE) 10.7MHz			
T2	1-404-953-11	TRANSFORMER, IF 455KHz			
T3	1-449-777-11	TRANSFORMER, DC-DC CONVERTER			
T4	⚠ 1-450-324-11	TRANSFORMER, POWER··· (AEP,Germany)			
T4	⚠ 1-450-325-11	TRANSFORMER, POWER··· (UK)			
**********					
*	1-636-867-11	VOLUME BOARD			
		**********			
	1-590-384-11	CORD, CONNECTION			
		< CAPACITOR >			
C201	1-164-232-11	CERAMIC CHIP 0.01uF		50V	
		< IC >			
IC201	8-759-008-67	IC MC14066BF			
		< JUMPER >			
JR201	1-216-296-00	METAL CHIP	0	5% 1/8W	
JR202	1-216-295-00	METAL CHIP	0	5% 1/10W	
JR203	1-216-296-00	METAL CHIP	0	5% 1/8W	
		< TRANSISTOR >			
Q201	8-729-903-30	TRANSISTOR DTC144TK			
Q202	8-729-903-30	TRANSISTOR DTC144TK			
Q203	8-729-903-30	TRANSISTOR DTC144TK			
		< RESISTOR >			
R201	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R202	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R203	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R204	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R205	1-216-113-00	METAL CHIP	470K	5% 1/10W	
R206	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R207	1-216-049-00	METAL CHIP	1K	5% 1/10W	
R208	1-216-049-00	METAL CHIP	1K	5% 1/10W	
		< VARIABLE RESISTOR >			
RV201	1-241-377-11	RES, VAR, CARBON 100K (FM 1)			
RV202	1-241-377-11	RES, VAR, CARBON 100K (FM 2)			
RV203	1-241-377-11	RES, VAR, CARBON 100K (FM 3)			
RV204	1-238-016-11	RES, ADJ, CARBON 10K			
**********					
		MISCELLANEOUS			
		**********			
ANT1	1-501-362-11	ANTENNA, TELESCOPIC			
SP1	1-544-406-11	SPEAKER			
**********					
		ACCESSORY & PACKING MATERIAL			
		**********			
⚠	1-555-234-00	CORD, POWER··· (AEP, Germany)			
⚠	1-558-032-11	CORD, POWER··· (UK)			
*	3-364-702-01	INDIVIDUAL CARTON			
*	3-364-706-01	CUSHION (R)			
*	3-364-721-01	CUSHION (L)			
	3-898-942-01	SHEET, INSTRUCTTON			
	3-752-571-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,GERMAN,SPANISH)			
	3-752-571-41	MANUAL, INSTRUCTION (DUTCH,PORTUGUESE,SWEDISH,ITALIAN)			
**********					
		SCREW			
		*****			
#1	7-685-647-79	SCREW +BTP 3X10 TYPE2 N-S			
#2	7-685-651-79	SCREW +BTP 3X20 TYPE2 N-S			
#3	7-671-112-11	BALL, STEEL			

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

English
91A1861-1
Printed in Japan
©1991. 1

Sony Corporation
Personal Communication Group
Published by Customer Relations and Service Group

9-956-178-11